MYCOTAXON

ISSN (print) 0093-4666 (online) 2154-8889 Mycotaxon, Ltd. ©2019

April–June 2019—Volume 134, pp. 271–273

https://doi.org/10.5248/134.271

Introduction of subfamily names for four clades in *Cladoniaceae* and *Peltigeraceae* (*Lecanoromycetes*)

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Abstract—In a recent proposal for a classification of orders and families in *Lecanoromycetidae* and *Ostropomycetidae* based on a temporal approach, *Squamarinaceae* and *Stereocaulaceae* were synonymized with *Cladoniaceae*, and *Lobariaceae* and *Nephromataceae* with *Peltigeraceae*. Since these four synonymized families represent easily recognized, monophyletic lineages and are well-established names, we here propose to accept them at subfamilial rank, as *Lobarioideae*, *Nephromatoideae*, *Squamarinoideae*, and *Stereocauloideae*.

Key words—classification, *Lecanorales*, *Peltigerales*, phylogeny, taxonomy

Introduction

Recently we proposed a revised classification of orders and families in the two major subclasses of *Lecanoromycetes*, *Lecanoromycetidae* and *Ostropomycetidae* (Kraichak & al. 2018) based on a temporal banding approach (Avise & Johns 1999, Kraichak & al. 2017). This classification proposal differed at the family level from other recently proposed classifications (Jaklitsch & al. 2016; Lücking & al. 2016, 2017; Lumbsch & Huhndorf 2010; Wijayawardene & al. 2018) in accepting some clades at family level (such as *Diploschistaceae*, *Thelotremataceae*, and *Varicellariaceae*) while synonymizing other clades previously accepted as families within older families. The latter clades represented monophyletic lineages but were shown to have diverged more recently than 111–235 Mya, which was the temporal band identified for the family rank. Four of the families synonymized in Kraichak & al. (2018) have been widely used names, and, hence, we suggest they should be accepted at subfamily rank. This allows recognition of these well-established and monophyletic clades while avoiding confusion due to incomparable ranks of clades.

Below we formally propose new subfamilies for the previously accepted families *Lobariaceae*, *Nephromataceae*, *Squamarinaceae*, and *Stereocaulaceae*. With the description of these subfamilies, *Cladonioideae* will become an available name for *Cladoniaceae* s.str. (i.e., excluding *Squamarinoideae* and *Stereocauloideae*) and *Peltigeroideae* for *Peltigeraceae* s.str. (i.e., excluding *Lobarioideae* and *Nephromatoideae*).

Taxonomy

Cladoniaceae Zenker, in Goebel & Kunze, Pharmac. Waarenk. 1(3): 124 (1827).

Squamarinoideae Lumbsch & S.D. Leav., **stat. nov.**

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BASIONYM: *Squamarinaceae* Hafellner, Beih. Nova Hedwigia 79: 342 (1984).

Stereocauloideae Lumbsch & S.D. Leav., **stat. nov.**

MB 830562

BASIONYM: *Stereocaulaceae* Chevall., Fl. Gén. Env. Paris 1: 596 (1826).

Peltigeraceae Dumort., Comment. Bot.: 68 (1822).

Lobarioideae Lumbsch & S.D. Leav., **stat. nov.**

MB 830563

BASIONYM: *Lobariaceae* Chevall., Fl. Gén. Env. Paris 1: 609 (1826).

Nephromatoideae Lumbsch & S.D. Leav., **stat. nov.**

MB 830564

BASIONYM: *Nephromataceae* Wetmore ex J.C. David & D. Hawksw., Syst. Ascom. 10: 15 (1991).

Acknowledgements

We wish to thank Dr. Brendan Hodkinson (Janssen Research & Development, Spring House, PA USA) and Dr. Christian Printzen (Senckenberg Research Institute, Frankfurt/Main, Germany) for reviewing this manuscript.

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